

DEPARTMENT OF HEALTH SERVICES

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February 19, 1998

Phil Rutherford
Boeing North America, Inc.
Rocketdyne Division
6633 Canoga Avenue
P.O. Box 7922
Canoga Park, CA 91309-7922

Subject: Boeing's Request for Concurrence in Release for Use Without
Radiological Restriction, Rocketdyne Santa Susana Field Laboratory
Building T023.

Ref: Letter 97RC1123, February 20, 1997; Phil Rutherford to Ed Bailey.

Dear Mr. Rutherford:

In reply to the above letter, the Radiologic Health Branch (RHB) has reviewed the document "Verification Survey of Buildings 005, 023 and 064 Santa Susana Field Laboratory Rockwell International Ventura County, California", by T. J. Vitkus of ORISE, dated October 1994.

Radiologic Health Branch (RHB) personnel completed a confirmatory survey of Building T023 on August 23, 1997. Based on the document review, the survey results and the laboratory analysis results of the wipe and soil samples, RHB concurs with your assessment that Building T023 may be released for use without radiological restriction.

If you have any questions or need further information please contact Mr. Roger Lupo at (916) 324-3731 or Mr. Steve Hsu at (916) 322-4797

Sincerely,

A handwritten signature in cursive script, reading "Gerard Wong", is positioned above the typed name.

Gerard Wong, PhD., Chief
Radioactive Materials Licensing
Radiologic Health Branch

Reference Document(s):

1. "Verification Survey of Buildings 005, 023 and 064 Santa Susana Field Laboratory Rockwell International Ventura County, California.", T.J. Vitkus, ORISE 94/K-14, October 1994
2. Letter from Phil Rutherford to Ed Bailey, "Request for Release of Building 023 for Unrestricted Use" February 20, 1997; re: 97RC1123.

Survey Personnel:

Roger Lupo, Dao Pho.

Survey Instruments:

Manufacture & Model	S/N	Probe/detector	S/N	Calibration date
Ludlum model 3	134076	Ludlum 44-2 1x1 NaI	Pr137133	6/4/97
Ludlum model 3	134215	Ludlum 44-2 1x1 NaI	Pr137117	6/4/97
Ludlum model 3	8029	Ludlum 44.9 pancake G-M	Pr017437	6/4/97
Ludlum model 19	62583	internal 1x1 NaI		5/14/97
Ludlum model 19	23068	internal 1x1 NaI		6/4/97

Survey Report:

On August 28, 1997 Mr. Roger Lupo and Mr. Dao Pho of the Radiological Health Branch performed a confirmatory survey of Building T023. Background measurements were taken in the north end of the structure, the historically unaffected area of the building (see table 1). This unaffected area is on the opposite end of the structure from areas where radioactive materials were handled. The possible contaminants involved were Cs-137, Mn-54 and Co-60 (all are gamma producing radionuclides). The survey began with a complete gamma scan of the floor inside the structure and the lower two meters of the interior walls. No indications of elevated gamma radiation fields were found. Next using a G-M pancake probe, sensitive to beta and gamma radiation and a NaI detector for gamma, contact measurements were taken at selected locations throughout the structure (see figure 1). A wipe sample was also taken at each contact measurement location for analysis by the Sanitation and Radiation Laboratory (SRL). A soil sample was collected from the bottom of the tank sump on the south side of the structure and sent to SRL for analysis. The soil sample was collected using a scoop attached to the end of a ten foot pole due to Boeing's confined space safety requirements. The field measurements are listed in table 2. The results of the analysis by SRL of the wipe samples and the soil sample are shown in table 3.

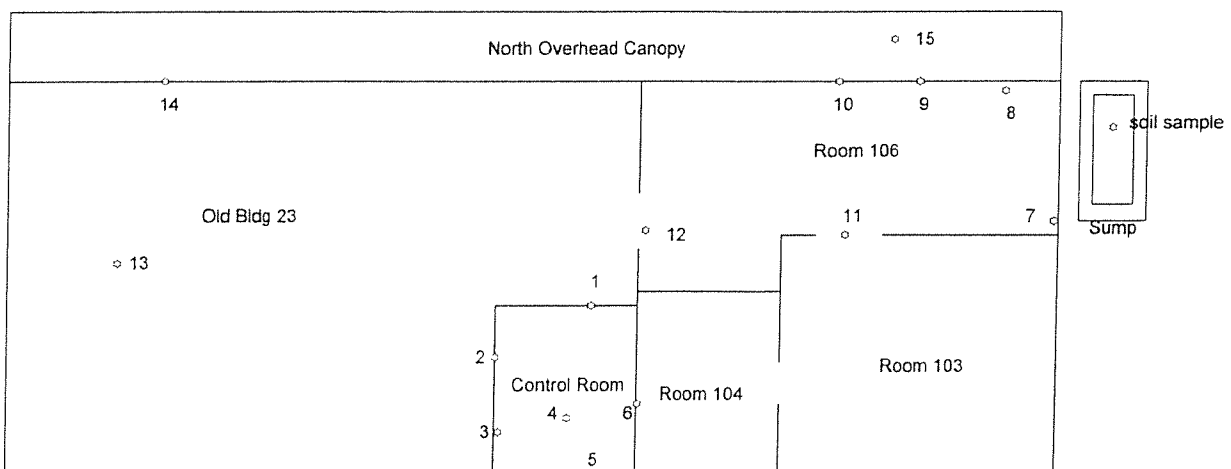


Figure 1: Building T023 Floor plan

Table 1: Background Measurements:

Meter	Reading
Ludlum M-19 Rate meter ($\mu\text{R/hr}$)	8 $\mu\text{R/hr}$
Ludlum model 3 survey meter w/ 1x1 NaI probe	2500 cpm
Ludlum model 3 survey meter w/ Ludlum 44-9 G-M pancake probe	40 cpm

Table 2: Contact Survey Data:

Location and Wipe ID	cpm (model 3 w/1x1 NaI)	cpm (model 3 w/ 44-9)	$\mu\text{R/hr}$ (Ludlum M-19)
1	2400	40 to 50	10
2	1800	20	7
3	2400	40	10
4	2300	60	10
5	2100	40	8
6	1600	30	7
7	2400	50	10
8	2600	50	10
9	2400	40	9
10	2400	50	10
11	2300	40	10
12	2300	50	9.5
13	2200	50	9
14	2200	40	8
15	2700	50	7
Tank Sump	3200	*	10

* No measurement taken due to the confined space safety requirements

Table 3: Wipe Sample Net Measurements and Laboratory Results:

Location and Wipe ID	Net cpm (model 3 w/1x1 NaI)	Net cpm ((model 3 w/ 44-9))	Net μ R/hr (Ludlum M-19)	Gross Alpha pCi/100cm ²	Gross Beta pCi/100cm ²	Gamma pCi/100cm ²
1	-100	-10	0	N.D.	N.D.	N.D.
2	-700	-30	-1	N.D.	N.D.	N.D.
3	-100	-10	2	N.D.	N.D.	N.D.
4	-200	-10	2	N.D.	N.D.	N.D.
5	-400	-10	0	N.D.	N.D.	N.D.
6	-900	-20	-1	N.D.	N.D.	N.D.
7	-100	0	2	N.D.	N.D.	N.D.
8	100	0	2	N.D.	N.D.	N.D.
9	-100	-10	1	N.D.	N.D.	N.D.
10	-100	0	2	N.D.	N.D.	N.D.
11	-200	-10	2	N.D.	N.D.	N.D.
12	-200	0	1.5	N.D.	N.D.	N.D.
13	-300	0	1	N.D.	N.D.	N.D.
14	-300	-10	0	N.D.	N.D.	N.D.
15	200	0	1	N.D.	N.D.	N.D.

Location and Wipe ID	Net cpm (model 3 w/1x1 NaI)	Net cpm (model 3 w/ 44-9)	Net μ R/hr (Ludlum M-19)	Gross Alpha pCi/g	Gross Beta pCi/g	Gamma pCi/g
Tank Sump	700	*	2	17.5 \pm 2.4	22.6 \pm 3.2	K-40 22.8 \pm 1.4 Cs-137 0.953 \pm 0.08 Co-60 0.068 \pm 0.047

* No measurement taken due to the confined space safety requirements.

Negative values indicate calculated numbers associated with measured levels that are below the background levels for the site.

Sample Analysis Request # R70076 for wipe samples 1 through 15.

Sample Analysis Request # R70077 for soil sample from the bottom of the tank sump.

Results less than the lower limit of detection are reported as not detected (N.D.)

Summary:

The survey results were all less than twice background for the structure and surrounding area. The results of the contact measurements and the laboratory analysis of the samples collected for building T023 have activity levels below the acceptable surface contamination levels listed in DECON-1 (Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use)

Prepared by: Regan K. Lupo

Date: 2-19-98